

I claim

1. A method of transmitting user data blocks comprising comparing the peak output of a transmission data block to a constant based on the dynamic range of a power amplifier; for any transmission data block that has a peak output greater than the chosen constant said data block is divided into two or more segments, transmitting said segments individually to a receiver.
2. The method according to claim 1 wherein one or more indicators are provided to notify the receiver that the original transmission data block should be reconstructed from said segments.
3. The method according to claim 2 wherein there is a distinction between the signal representation used for the indicators and that used for the data being transmitted.
4. The method according to claim 3 wherein the data is binary and the indicator is non binary.
5. The method according to claim 4 wherein said indicator is a 0 when the data is comprised of +1's and -1's.
6. The method according to claim 2 wherein the segments are transmitted in a transmission data block and said indicators may be included in said data block.
7. The method according to claim 6 wherein when one or more segments are interspersed with indicators, the total amount of information must fill a full transmission data block.
8. The method according to claim 1 wherein two or more segments from different user data blocks may be transmitted together, in the same transmission data block.
9. The method according to claim 8 wherein the segments comprising the transmitted data block are selected in a cyclic order.
10. The method according to claim 9 wherein said user data blocks are reconstructed based on said indicator.

11. The method according to claim 10 wherein said user data block may also be reconstructed based on the order in which said segments are transmitted.

12. The method according to claim 11 wherein when one of the divided segments from a user data block is transmitted along with indicator information as a single transmission data block, the next transmission data block comprises the remaining segment or segments without indicators.

13. The method according to claim 12 wherein the next data block to be transmitted further includes one or more segments from another user data.

14. The method according to claim 1 wherein all segments separated from said user data blocks have a power output less than the dynamic range of said power amplifier.

15. The method according to claim 2 wherein said segments are defined by bit positions selected from said user data blocks and determine bit positions in transmitted data blocks.

16. The method according to claim 15 wherein said indicators may only be placed in predetermined positions in transmitted data blocks.

17. The method according to claim 16 wherein the receiver looks at a majority of the indicators in said transmitted data blocks as a representative sample to diminish the effects of receive errors.

18. The method according to claim 17 wherein when the transmitted data block is received, the receiver compares groups of segments to determine the type of indicator(s) transmitted, if any.

19. The method according to claim 18 wherein the comparison groups are determined by the bit positions of said segments.

20. A method for reduction of Peak-to-Average Power Ratio Effects in Orthogonal Frequency-Division Multiplexing Modulation comprising

(a) determining which symbols in the transmitted symbol space have a PAPR less than some set constant;

(b) determining which symbols in a symbol space have a PAPR greater than said constant;

09971562-05401
TOT 297 2860

(c) for the symbols in the symbol space that are greater than the constant, transmitting only a part of the information bits at a time, and interspersing zeroes between those information bits to segregate the bits into blocks;

(d) whenever PAPR requirements can be met, packing transmitted symbols to capacity with user information;

(e) forming comparison groups in the receiver to determine which received bit positions contain user data and which contain zeroes

[illegible]

TOP SECRET FRODO